

What is claimed is:

1. (Once Amended) A metallic catalytic particle for selectively producing single-walled carbon nanotubes, comprising:
Co and Mo in a ratio of one part Co to at least two or more parts of Mo; and
a support material, and wherein the Co, Mo and support material are combined to have a particulate form.
37. (New) The metallic catalytic particle of claim 1 further comprising an additional Group VIII metal.
38. (New) The metallic catalytic particle of claim 1 further comprising an additional Group VIb metal.
39. (New) The metallic catalytic particle of claim 1 wherein the support material is selected from the group consisting of silica, MCM-41, alumina, MgO, ZrO₂, aluminum-stabilized magnesium oxide, and molecular sieve zeolites.
40. (New) The metallic catalytic particle of claim 1 comprising from about 1% to about 20% by weight of Co and Mo.

41. (New) A metallic catalytic particle for selectively producing single-walled carbon nanotubes, comprising:
at least one of Ru, Rh, Pd, Ir, Pt, at least one Group VIb metal, and a support material, combined to have a particulate form.
42. (New) The metallic catalytic particle of claim 41 wherein the at least one Group VIb metal is selected from the group consisting of Cr, Mo and W.
43. (New) The metallic catalytic particle of claim 41 comprising Ru.
44. (New) The metallic catalytic particle of claim 41 comprising Rh.
45. (New) The metallic catalytic particle of claim 41 comprising Pd.
46. (New) The metallic catalytic particle of claim 41 comprising Ir.
47. (New) The metallic catalytic particle of claim 41 comprising Pt.

48. (New) The metallic catalytic particle of claim 41 wherein the support material selected from the group consisting of material of silica, MCM-41, alumina, MgO, ZrO₂, aluminum-stabilized magnesium oxide, and molecular sieve zeolites.
49. (New) The metallic catalytic particle of claim 41 comprising from about 1% to about 20% by weight of the at least one Ru, Rh, Pd, Ir and Pt and the at least one Group VIb metal.

50. (New) A metallic catalytic particle for selectively producing single-walled carbon nanotubes comprising:
at least one Group VIII metal, excluding Fe, at least one of Cr, Mo and W, and a support material, and wherein the Group VIII metal, the at least one of Cr, Mo and W, and the support material are combined to have a particulate form, excluding a metallic catalytic particle consisting of the support material and Co and W or Co and Mo.
51. (New) The metallic catalytic particle of claim 50 wherein the at least one Group VIII metal is selected from the group consisting of Co, Ni, Ru, Rh, Pd, Ir and Pt.
52. (New) The metallic catalytic particle of claim 50 comprising Cr.
53. (New) The metallic catalytic particle of claim 50 comprising W.
54. (New) The metallic catalytic particle of claim 50 comprising Mo.

55. (New) The metallic catalytic particle of claim 50 wherein the support material selected from the group consisting of material of silica, MCM-41, alumina, MgO, ZrO₂, aluminum-stabilized magnesium oxide, and molecular sieve zeolites.
56. (New) The metallic catalytic particle of claim 50 comprising from about 1% to about 20% by weight of the at least one Group VIII metal and the at least one of Cr, Mo and W.

57. (New) A metallic catalytic particle for selectively producing single-walled carbon nanotubes, comprising:
Co and Mo in a ratio of one part Co to at least two or more parts of Mo, and a silica support material, wherein the Co, Mo and silica support material are combined to have a particulate form.
58. (New) The metallic catalytic particle of claim 57 further comprising an additional Group VIII metal.
59. (New) The metallic catalytic particle of claim 57 further comprising an additional Group VIb metal.
60. (New) The metallic catalytic particle of claim 57 comprising from about 1% to about 20% by weight of Co and Mo.